



UNITED STATES PATENT AND TRADEMARK OFFICE

6

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,638	04/08/2004	Thanthrimudalige D.J. Dunstan	3050-004	8823

33432 7590 10/09/2007
KILYK & BOWERSOX, P.L.L.C.
400 HOLIDAY COURT
SUITE 102
WARRENTON, VA 20186

EXAMINER

MAPLES, JOHN S

ART UNIT	PAPER NUMBER
----------	--------------

1795

MAIL DATE	DELIVERY MODE
-----------	---------------

10/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/820,638	Applicant(s) DUNSTAN ET AL.	
	Examiner John S. Maples	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) 28-49 ~~is/are~~ withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12, 14-18, 21-27 and 50-57 ~~is/are~~ rejected.
- 7) ☒ Claim(s) 9, 11, 13, 19, 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1745

1. Applicant's election with traverse of Group I in the reply filed on 26 July 2007 is acknowledged. The traversal is on the grounds that there are only minor differences in subclasses. This is not found persuasive because the subject matter is materially different which is why the groups are classified in different subclasses. As such, there is serious burden on the examiner to search all of these subclasses.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 28-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 53-56 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an electrochemical cell with a cathode/anode capacity ratio of 2 or greater in a cell where the electrolyte comprises imidazolium or pyrazolium cation and a non-Lewis acid derived anion, does not reasonably provide enablement for any electrochemical cell with a cathode/anode capacity ratio of 2 or greater. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

These claims require amendment to include the electrolyte comprising imidazolium or pyrazolium cation and a non-Lewis acid derived anion. This is because

Art Unit: 1745

the present specification does not provide for just any electrochemical cell having the above noted cathode/anode capacity.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2, 27, 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "a BETI" is unclear and indefinite because BETI is a specific compound and thus it is not known what is meant by the above expression.

Claim 27 is unclear because it is not known what "capacity ratio" is referring to.

There is no antecedent basis for "anion" found in line 1 of claim 51. Also, the listing of the various anions is unclear because the Markush language is incorrect and/or it appears that the word --or-- should be inserted between the listed anions.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 4, 5, 10, 12, 14, 21-23, 25, 26, 50, 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Caja et al-US 6,326,104. (Caja)

See the Abstract to Caja along with column 2, line 1-column 3, line 23; column 3, line 46 through column 6, line 10, claims 10 and 39. These portions of Caja disclose an

Art Unit: 1745

electrolyte comprising a pyrazolium cation along with a non-Lewis acid derived anion.

The battery may be used up to 300 degrees C.

9. Claims 1-8, 14-18, 22-26, 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Michot et al.-US 6,365,301. (Michot)

Reference is made to the Abstract to Michot along with column 3, lines 13-40; column 4, lines 28-55; column 6, lines 26-48; Examples 1, 5, 14, 15, 18, 19. These portions of Michot disclose an imidazolium cation used in an electrolyte for a battery wherein the anode is $\text{Li}_4\text{Ti}_5\text{O}_{12}$ and the cathode is LiCoO_2 . In view of the amounts of anode and cathode materials used per square cm, it is inherent in Michot that the claimed ratio of cathode to anode capacity would be met.

10. Claims 1-4, 50, 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonhote et al.US 5,683,832. (Bonhote)

See the Abstract to Bonhote and column 1, lines 12-15; lines 25-50; column 2, lines 5-23; Example 4. These portions of Bonhote disclose an imidazolium cation used in an electrolyte in a battery. Column 2 of Bonhote teaches the claimed anion.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions

Art Unit: 1745

covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Michot.

It could be argued that Michot does not teach at least a capacity of cathode to anode ratio of at least 2. It would have been obvious to one of ordinary skill in this art to have utilized a 2/1 ratio of cathode capacity to anode capacity because Michot envisions such by providing more cathode material than anode material.

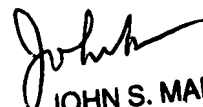
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Friday, 6:30-3:00..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSM/10-1-2007


JOHN S. MAPLES
PRIMARY EXAMINER